

REMARKS

Favorable reconsideration in view of the previous amendments and following remarks is respectfully requested.

Claims 1 and 3-11 are pending. By this Amendment, claim 2 is canceled and claims 1 and 8 are amended, and new claim 11 is added.

Applicants appreciate the courtesies extended to Applicants' representative during the July 29, 2009 telephone discussion. The substance of the discussion is incorporated into the amendments and remarks herein and constitutes Applicants' record of the discussion.

The Office Action rejects claims 1-7 under 35 U.S.C. §102(b) over U.S. Patent No. 4,322,665 to Landgraf; in view of U.S. Patent No. 3,942,055 to Hoffmeyer; and rejects claims 8-10 under 35 U.S.C. §103 (a) over Landgraf in view of U.S. Patent No. 5,796,190 to Takeda et al. These rejections are respectfully traversed.

Claim 1 recites, in combination with other claimed features, a stator iron core consisting of six notches, each notch formed by a single uninterrupted roughly straight line on an outer circumference edge of the stator iron core, so that a square or rectangle is formed by straight lines including four notches out of the six notches. These claimed features encompass Applicants' exemplary embodiment as illustrated in Fig. 1 wherein notches 2 are formed on an outer circumference edge of the stator iron core 1.

By providing six notches, each notch formed by a single uninterrupted roughly straight line on an outer circumference edge of the stator iron core, a square or rectangle is formed. Thus, it is possible to reduce an area of the electromagnetic

steel sheets necessary for blanking the stator iron core. This improves the material layout resulting in a reduction of costs for the single-phase motor.

The Landgraf patent discloses in Fig. 2 and as described on page 3 of the Office Action, multiple portions alleged by the Examiner to correspond to the claimed notches formed on the outer circumference edge of the stator iron core. The Examiner recognizes that Landgraf does not clearly teach a stator iron core consisting of six notches each notch formed by a single uninterrupted roughly straight line on an inner circumference edge of the stator iron core so that a quadrangle is formed by straight lines including four notches out of the six notches. Applicants respectfully disagree with the Office Action's assertion that Hoffmeyer overcomes this deficiency of Landgraf. In particular, at paragraph 3 of the Office Action, the Examiner asserts that Hoffmeyer teaches that a rectangle or a square is formed by straight lines including four notches out of the six notches. In fact, Hoffmeyer discloses that a rhomboid is formed by straight lines including four notches out of the six notches. Thus, Landgraf in view of Hoffmeyer does not disclose the claimed combination of features of Applicants' independent claim 1.

Applicants' independent claim 8 recites, in combination with other claimed features, a slot between each of a plurality of stator teeth, a plurality of evenly spaced semicircular notches having an approximately same width as the stator teeth and each provided at an outer side of each of the plurality of stator teeth on an outer circumference of the stator iron core. The number of semicircular notches corresponds to the number of stator teeth. Such a feature encompasses Applicants' exemplary embodiment as illustrated in Fig. 9 wherein the number of notches 2 corresponds to the number of stator teeth 12.

In Takeda, the bolt holes 111e and the other notches formed on the circumference of Fig. 3a do not correspond to the number of stator teeth. Thus, Applicants' independent claim 8 is distinguishable over the Takeda reference.

The magnetic flux density of the coreback is high at the outer circumferential side of the slot, and the width of coreback is large at the outer side of the teeth. Because the width is large, the magnetic flux density does not become high. Specifically, the magnetic flux density is not saturated even if the roughly semicircular notches are provided, and it is possible to reduce or prevent the increase of electric current which flows through the windings. Namely, the increase of the magnetic flux density can be reduced or prevented and the efficiency can be enhanced.

The dependent claims are allowable for at least the reasons discussed above as well as for the individual features they recite. For example, claim 10 recites each semicircular notch is aligned with a respective stator tooth so that their centers are substantially located on the same radial axis. The applied references do not disclose this feature.

Applicants' new claim 11 recites, in combination with other claimed features, in the assembled state of the single phase motor, each of the plurality of evenly spaced semicircular notches form a flow passage. Such a feature encompasses Applicants' exemplary embodiment as illustrated in Fig. 8 wherein stator iron core 2 includes semicircular notches 2.

The Examiner alleges that bolt holes 111e in Takeda correspond to the claimed semi-circular notches. However, the bolt holes 111e are not semicircular. The bolt holes 111e are used with bolts 102 to fix the stator core 111 to the housing 101. As shown in Fig. 5 of Takeda, bolts will fill bolt holes 111a. As discussed in

Applicants' as-filed specification at paragraph [0039] when the stator is mounted on a hermetic compressor, the notches are used as passages for a refrigerant or oil. In order to secure performance and reliability it is necessary to form the notches to have a total area more than a certain level.

The Office alleges that the shape of the notches is a matter of obvious design choice. However, the bolt holes 111e of Takeda are used to secure the housing to the stator core. The notches are for a completely different purpose, as stated above. The parameters identified by the Examiner, space, rotor location etc. are more related to size rather than shape. Thus, Takeda does not disclose a plurality of evenly spaced semicircular notches on an outer circumference of the stator iron core wherein in the assembled state of the single phase motor each of the plurality of evenly spaced semicircular notches form a flow passage as in Applicants' independent claim 11.

Early and favorable action with respect to this application is respectfully requested.

Should the Examiner have any questions regarding this Amendment of the application in general, he is invited to contact the undersigned at the number provided below.

Respectfully submitted,

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